REMARKS

The Specification

The Examiner has directed Applicant's attention to 37 CFR 1.77 (b). To the extent Applicant believes that form is applicable, it has been followed. As the Examiner recognizes this is not a requirement but a suggestion. The Examiner requests the addition of a Summary of the invention. Applicants submit that that the inclusion of a Summary is permissive but not required. Note also the language in section 1.73 of "when set forth." (Also compare the verbs of sections 1,77 and 1.73 (should) with the section dealing with the abstract, 1.72(b) (must)). Thus, Applicants submit that the specification meets the requirements of the statute and rules.

The Drawings

Proposed corrections to Fig. 1 are enclosed along with a replacement sheet. With regard to the Examiner's specific comments, the following is noted:
- Fig. 1 has been designated as prior art;
- Reference character 10, as is clear from the specification, designates the pipeline and not the Decode and/or Execute. To avoid any confusion, an arrow has been added to the lead line of this reference character leading to Decode.
- The designation 10 pointing to Execute has been changed to 14.

The Claims

Claims 1-27 remain in this application. Claims 6 and 25 have been amended. All claims stand rejected.

Claims 1-7 and 9-23 are not anticipated by McFarling, nor is Claim 8 obvious in view of Tran.

Claim 1 requires:

"a base misprediction history register providing an output;

a meta predictor to receive as inputs an index value and a branch prediction to generate a misprediction value in accordance with said inputs and said base misprediction history register output; and

a logic gate to receive said branch prediction and said misprediction value to generate a final prediction."

This structure is not present in McFarling. There two predictors, of types known in the art the outputs of which are inputs to a multiplexer in which one is selected based on the output of choosing counters. In contrast in the arrangement claimed in claim 1, a logic gate, an element quite different from a multiplexer, receives a prediction and a misprediction value and combines these to obtain a final selection.

Furthermore, there is no structure in the reference that can be called a meta predictor. Note that the meta predictor has as inputs an index value, a branch prediction and the base misprediction history register output. It generates not a prediction, but a misprediction value, which indicate the likelihood of the prediction of the branch predictor being wrong. In other words, neither of the predictors in the reference meet the requirements of the claimed meta predictor. In view of this, claim 1 and the claims dependent thereon distinguish over this reference and are allowable.

Similarly, for the reasons just stated, method claim 10 and Beauregard claim 20 are not anticipated. There is no element in the reference that has as inputs an index value, a branch prediction and a misprediction history value. Furthermore, there is no element that generates a misprediction value as disclosed and claimed. Both predictors in the reference generate branch predictions, one of which is selected. Thus, claims 10 and 20 and the claims dependent thereon should also be allowed.

These same limitations are found in claim 17 and, thus, it and the claims dependent thereon should be allowed for the same reasons given above.

Claims 24 – 27 are not anticipated by Tran

Claim 24 requires restoring both a branch prediction history register and a base misprediction register. Applicants cannot find a misprediction register in the reference and thus submit that this step cannot be performed by the reference. Thus, claim 24 and dependent claims 25-27 are not anticipated.
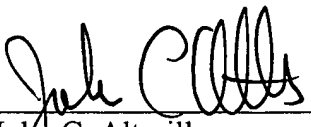
In view of the above, Applicants believe that all claims remaining in this application are in condition for allowance, prompt notice of which is respectfully solicited.

The Examiner is invited to call the undersigned at (202) 220-4200 to discuss any information concerning this application.

The Office is hereby authorized to charge any additional fees under 37 C.F.R. § 1.16 or § 1.17 or credit any overpayment to Deposit Account No. 11-0600.

Respectfully submitted,

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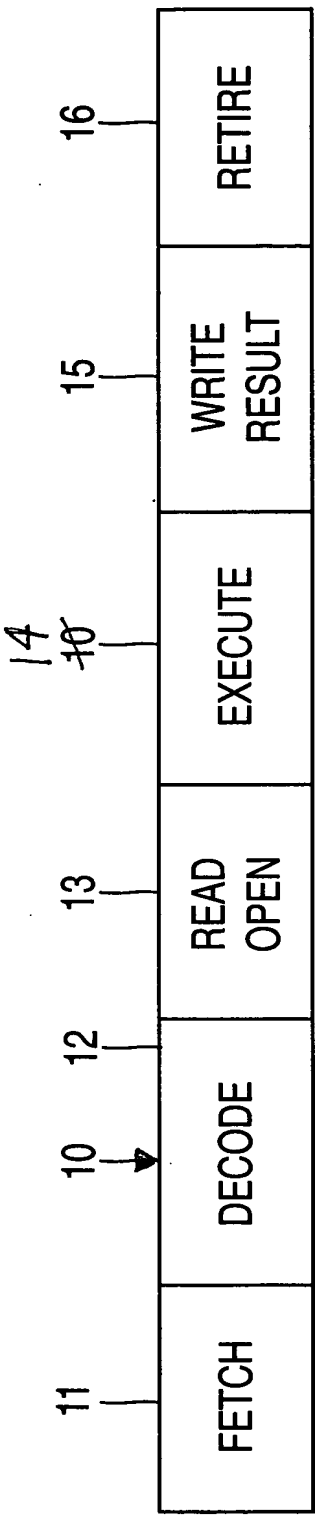Fax.: (202) 220-4201
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FETCH	DECODE	READ OPEN	EXECUTE	WRITE RESULT	RETIRE

11   10   12   13   14 10   15   16

FIG. 1

PRIOR ART